

**Statement of  
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**Submitted for the record to  
Committee on Science  
Subcommittee on Energy  
U. S. House of Representatives  
For its consideration of  
Re-authorization of the Metals Initiative (HR 3890)  
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Good morning. I'm Lisa A. Roudabush, General Manager-Research for US Steel Corporation. Thank you for the opportunity to testify. I'm here today to explain the importance of the Metals Initiative to our industry. The Metals Initiative has been at the center of steel industry research since the late 1980's and significant advances in melting, casting and rolling have been made in research projects under the Metals Initiative. For example, since 1990, energy utilization per ton of steel shipped has decreased 17%, much of it the result of collaborative research. This is particularly impressive for an industry composed mainly of small and medium-sized businesses, in fact if you were to combine the three largest steel companies into one, the company they would form would be 4% the size of General Electric.

One of the most important programs under the Metals Initiative is the highly successful, highly leveraged Technology Roadmap Program (TRP), which has nearly 60 industrial participants. It brings together stakeholders from across the country for the purpose of developing next generation steelmaking technology, reducing energy consumption in the steel industry and in downstream industries (such as automotive), while improving our environment.

As an example, ten projects, leveraging \$4.2 million of federal funding, have been focused on the development of Advanced High Strength Steels for automobile manufacturing. Advanced High Strength Steels enable the design of automobiles that are lightweight while retaining all the safety and affordability of a basic carbon steel. Porsche Engineering and the steel industry developed Ultra-Light Steel Auto Body—Advanced Vehicle Concept (ULSAB-AVC). It uses 80% Advanced High Strength Steel and results in 52 mpg (gas) and 68 mpg (diesel). Advanced High Strength Steels are rapidly being adopted by automakers—in 2004 the Chevy Malibu and Chrysler Pacifica both use approximately 50% AHSS. The following benefits are calculated using a market penetration of 7% of ULSAB-AVC type vehicles, a low hurdle given the rapid adoption already evidenced:

Item	Savings per year	Savings per yr per federal \$ spent
Gallons of gasoline	171000000	41
Dollars at \$1.50 per gallon	256500000	61.5
Barrels of oil	4071429	0.84
CO <sub>2</sub> emissions reduction (tons)	2100000	0.5

To summarize my example, here we have a set of projects that save nearly a barrel of oil (0.84) per federal dollar invested or, in terms of the environment, a ton of CO<sub>2</sub> for every \$2 of federal money invested, all the while delivering real technology to the plant floor to help us maintain a competitive advantage.

Staying with our focus on the environment, the Metals Initiative specifically focuses research on reduction of CO<sub>2</sub> emissions. The steel industry believes, as the Administration does, that technology development is the appropriate means for reducing greenhouse gases. Steel companies, as a sector, have joined the president's Climate Vision program and have committed to a goal of 10% reduction in energy intensity by 2012 over a 2002 baseline. There is a major international effort in the steel industry to eliminate CO<sub>2</sub> emissions, including governments and steelmakers in Europe, Korea, Japan and Canada. Foreign governments are cost-sharing this very high-risk research. The European Commission will provide approximately 23 million euro. The US intends to be a part of this initiative, called the CO<sub>2</sub> Breakthrough Program, and we will rely on the Metals Initiative for the necessary cost-sharing to help us develop and deliver technologies for CO<sub>2</sub> abatement, such as carbon sequestration and the use of alternative fuels.

Continuous technology development is at the heart of any industry's success and the Metals Initiative is the catalyst for steel industry research. Federal dollars accelerate the research and act as a multiplier – they allow more work to be done and to be delivered to the factory floor sooner, both critical for the health of any industrial sector in a global market. The federal cost-share has a positive impact on steel industry competitiveness compared to other government involvement in industry, e.g., various regulatory policies, monetary policy, pensions and health care, which are anti-competitive, in that they add cost. Much of the Metals Initiative research is done at universities around the country. Steel research at universities plays the lead role in the development of the next generation of workers in America's steel plants. So, the program develops technologies to maintain a healthy steel sector, and the healthy steel sector provides jobs. As an example, just the projects we have under consideration for 2004 will add 95 jobs in western Pennsylvania.

The terms of the Metals Initiative also allow us to protect proprietary information for up to five years, which gives us time to implement the developed technology and gain a competitive advantage. The Metals Initiative is the only federal program I am aware of that specifically cites competitive advantage as a goal. The results of our Metals Initiative research propagate through the entire supply chain of materials—higher performing steels equal higher performing consumer goods and a cleaner environment.

I hope my colleague, Mr. Shulkosky, and I, have conveyed the importance of Metals Initiative research to our industry, in the broadest sense. Thank you for your attention, I would be happy to answer any questions.